

Acknowledgement

I would like to express my gratitude and respect to Professor Alak Kumar Buragohain, my research supervisor, and Dr. Rupak Mukhopadhyay, my co-supervisor for their patient guidance, enthusiastic encouragement and useful critical insights throughout this research, inspite of their busy schedules.

I would like to thank, the Hon'ble Vice Chancellor of Tezpur University, Professor Mihir Kanti Chaudhuri, FNA, FNASc, for inspiring and encouraging me throughout my research work.

I am deeply indebted to Professor Samir Bhattacharya, FNA, FNASc, FASc, Emeritus Professor, Visva-Bharati University, Shantiniketan for his steady encouragement in carrying out my research.

Special thanks to Dr. Suman Dasgupta (Sumanda), for his constant support, guidance and love in every step during my Ph. D. tenure. I also thank my Doctoral Committee member Dr. Robin Doley for his encouragement and constant scrutinization of my work.

I thank the teachers of my department, Prof. B. K. Konwar, Prof. A. K. Mukherjee, Prof. S. Baruah, Dr. S. K. Ray, Dr. M. Mandal and Dr. A. Ramteke, Dr. E. Kalita, Dr. S. Saha, Dr. S. P. G. Ponnampal, Dr A. N. Jha, and Mr. N. D. Namsa for their constant encouragement. I also appreciate the staff members of the MBBT department, Dr. Kalyan K. Hazarika, Dr. Naba Bordoloi, Mr. Pronab Mudoi, Mr. Samar Kakati, Mr. Deepak Deka and Mr. Pranab Bora.

I would like to take this opportunity to thank Mr. Saurov Mahanta for introducing me into field of research and instilling in me the quest for knowledge.

I also thank the SAIC, Tezpur University for extending the HPLC facility. I am thankful to the SAIF, IIT Bombay for their help in carrying out the Mass Spectrometry related experiments.

My gratitude to all the members of Molecular endocrinology lab, Molecular Toxicology lab and Cell Signalling lab, VisvaBharati University and members of Centre for Studies in Biotechnology (CSBT), Dibrugarh University for their support during my stay. It will be incomplete if I don't mention about the love and affection I got from all the boarders of the Pearson Palli Reseach Scholars' Hostel, Visva-Bharati University, Santiniketan during my stay.

My lab seniors, Dr. Susmita Singh, Dr. Ranjan Dutta Kalita, Dr. Nilakshi Barua, Dr. Lipika Aidew, Dr. Shubhendu Shekhar and my lab mate Ms Yutika Nath are sincerely appreciated for their constant help, support and suggestions.

My sincere thanks for my departmental colleagues Anjanda, Rajeev, Ajay bhaiya, Rupesh bhaiya, Maitreyee ba, Yasir bhaiya, Kuldeep, Pranjal, Monoj, Simran, Archana, Debabrata Saikia, Dhruba for their support and inspiration to carry out my work.

My sincere thanks go to my seniors Dr. Jyoti Prasad Saikia, Dr. Mayur M. Phukan, Dr. Pranjal Bharali, Dr. Anggana Ray, Dr. Kalpana Sagar, Dr. Krishna Gogoi, Dr. Rahul Kumar, Dr. Jetendra Kr. Roy, Dr. Viveeyan Saikia, Dr. Anowar Hussain, Mr. Diaganta Das and present Research Scholars of the Department of Molecular Biology and Biotechnology, Tezpur University for their love and encouragement.

Sincere thanks to Triveni, Anuradha, Ankita and Sudeshna for their help and support during their stay in our lab.

Kristi, Kamalakshi, Prateeti (Bunu), Debananda, Homen, Iftikar da, Basanta, Pranab da, Tarinee and of course my best friend Purvita deserve special thanks for their patience and help with the preparations of the thesis. Without their constant support it would not have been possible for me.

I wish to acknowledge the financial support provided by Tezpur University and funding agencies – Department of Biotechnology (BT/56/NE/TBP/2010) and University Grant Commission (No.F.7-263/2009 (BSR)), Govt of India.

I owe my sincere thanks to Sar da and Subham da for their help and technical support to carry out my work.

I am lucky to have friends including Apu, Dibya, Trideep, Bichitra, Denanjai, Samudra, Rupam, Chumban, Sujit, Pranjal, Sailen, Santanu, Manash, Rajib, Sariful, Surjya, Anoop, Rambalak for their support and encouragement during my journey.

I would like to convey my sincere gratitude to my parents for their undying love and encouragement throughout my endeavour. They have always been my constant pillars of strength and support. Also I want to thank my sister (Tutu), brother in law (Surajit), brother (Jintu) and other family members.

I thank all those people who have helped me in some way or the other whose names I may have missed out.

Last but not the least I thank the Almighty for his blessings.

Bhaskarjyoti Gogoi